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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/27/2001

Masami Kanasugi

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10/27/2003

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EXAMINER

DO, CHAT C

ART UNIT

PAPER NUMBER

2124

DATE MAILED: 10/27/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,350

Applicant(s)

KANASUGI ET AL.

Examiner

Chat C. Do

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/27/01; 11/27/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 1, the limitation "selectors change predetermined ... number of oversamples" in line 15-16 is mis-descriptive. For examination purposes, the examiner considers this limitation as a pattern of selecting predetermined tap factors is changed accordance with a change in the number of oversamples. Claims 5 and 9-10 have the same problem.

Thus, claims 2-4 and 6-8 are also rejected for being dependent on the rejected base claims 1 and 5 respectively.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-3, 5-7, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by D'Luna et al. (U.S. 5,311,459).

Re claim 1, D'Luna et al. disclose in Figure 2 an over-sampling FIR filter for filtering with a clock having a frequency higher than a frequency of accepting input data, comprising: a shift register (12) having a plurality of holding parts (I1-I4) connected in cascade for sequentially accepting input data (CI_IN); a plurality of selectors (M1-M3) respectively formed corresponding to holding parts for selecting, from a plurality of tap factors (C1-C12), a predetermined number of tap factors (12 coefficients) in synchronization with clock ($1/3$ clock); a plurality of multipliers (3 multipliers in Figure 2) formed respectively corresponding to holding parts for respectively multiplying input data held in holding parts, by tap factors selected by selectors corresponding to holding parts; and an adder (A1) for adding the multiplication result (B2-B4) from multipliers and outputting the resultants as output data (OBI), and wherein selectors change predetermined number of tap factors to be selected, in accordance with a change in the number of over-samples, which is the number of tap factors to be multiplied by single input data (routing in sequence).

Re claim 2, D'Luna et al. further disclose in Figure 2 a part of plurality of tap factors respectively selectable by selectors adjacent to one another are shared by selectors (14 is the routing coefficient circuit wherein the coefficients are propagated to all the coefficient registers C1-C12).

Re claim 3, D'Luna et al. further disclose in Figure 2 a tap controlling unit for instructing selectors tap factor to be selected first in accordance with a change in number of over-samples (15).

Re claim 5, it is a method claim of claim 1. Thus, claim 5 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 6, it is a method claim of claim 2. Thus, claim 6 is also rejected under the same rationale in the rejection of rejected claim 2.

Re claim 7, it is a method claim of claim 3. Thus, claim 7 is also rejected under the same rationale in the rejection of rejected claim 3.

Re claim 9, it is an integrated circuit claim of claim 1. Thus, claim 9 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 10, it is a system claim of claim 1. Thus, claim 10 is also rejected under the same rationale in the rejection of rejected claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being obvious over D'Luna et al. (U.S. 5,311,459).

Re claim 4, D'Luna et al. do not disclose in Figure 2 that when number of over-samples is changed, tap controlling unit changes tap factors selected by selectors back to predetermined tap factors used prior to the changing of number of over-samples, in which every time input data is accepted, the changes of tap factors are performed in sequence, starting from selector corresponding to holding part at the input side. However, the examiner take an official notice that it is well known in the art that each time the sampling rate or data rate is changed, the coefficients are reset in order to obtain the correct output. Therefore, it would have been obvious to a person having ordinary skill in the art the time the invention is made to add a reset mode of resetting the coefficients when the sampling rate is changed into D'Luna et al.'s invention because it would enable to increasing the system performance and simplify the system circuitry of obtaining the filter output of a dynamic sampling rate.

Re claim 8, it is a method claim of claim 4. Thus, claim 8 is also rejected under the same rationale in the rejection of rejected claim 4.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 4,990,911 to Fujita et al. disclose a sampling frequency converter.
- b. U.S. Patent No. 5,608,824 to Shimizu et al. disclose an image processing apparatus in which filters having different filtering characteristics can be switched among themselves.

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c. U.S. Patent No. 5,528,527 to Iwata et al. disclose a sampling frequency converter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Chat C. Do
Examiner
Art Unit 2124

October 20, 2003



**CHUONG DINH NGO
PRIMARY EXAMINER**